

Occurrence of Depression in Patients of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome: An Observational Study

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Abstract

Introduction: Depression is a state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings, and sense of well-being. In recent studies, lifetime prevalence of depressive disorders in human immunodeficiency virus (HIV) individuals was found to be 22% and that in the general population was 3%–10%. The aim of our study is to find the occurrence of depression in HIV/acquired immunodeficiency syndrome (AIDS) individuals and study the clinical profile of depression in patients of HIV/AIDS, and effect of treatment of depression in patients of HIV/AIDS.

Material and Methods: It was an observational study including 269 HIV positive patients who were willing to be a part of the study. Patients having any long-term illness apart from HIV/AIDS leading to depression were excluded from the study. Depression was measured using following scales: General health questionnaire-28 (for screening of HIV/AIDS patients for psychiatric illness), DSM IV scaling (for diagnosis of depression), Hamilton scale (for severity analysis of depression), and mini-mental state examination scale (for assessment of cognitive function).

Results: Out of 269 HIV cases, 63 were found to have depression (23.42 %). Out of the 63 having depression, 47 (74.6%) were having mild depression, 15(23.8%) were having moderate depression, and 1 (1.6%) were having severe depression. Depression was found to be more common in 30–39 years of age group (26.2%), with male predominance (26.5%) as compared to the females (20.3%). Depression was more common among patients with CD4 count ≤ 300 (24.7%) compared with ≥ 300 CD4 count group (22.0%). On follow-up, 28 out of the 40 depressed HIV patients (who received antidepressants) showed recovery (70%).

Conclusion: Depression was found to be common among the HIV/AIDS patients. Depression was more common among males, among 30–39 year age group and among patients with the lower CD4 count. Early and compliant antidepressant therapy is very effective in treating depression among the HIV/AIDS patients.

Key words: Acquired immunodeficiency syndrome, Depression, Human immunodeficiency virus

INTRODUCTION

The human immunodeficiency virus (HIV) is a lentivirus (a subgroup of retrovirus) that causes HIV infection and acquired immunodeficiency syndrome (AIDS).^[1] AIDS

is a condition in humans in which progressive failure of the immune system allows life-threatening opportunistic infections and cancers to thrive. Without treatment, average survival time after infection with HIV is estimated to be 9–11 years, depending on the HIV subtype.

Clinical depression is the most commonly observed mental health disorder among HIV-infected patients, affecting up to 22% of patients.^[2,3] The prevalence may be even greater among substance users. Depressive symptoms have been associated with risk behavior, non-adherence to medications, and shortened survival.^[4-7] HIV-infected patients do not become depressed simply

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because their disease progresses,^[8] however, the presence of hopelessness, anhedonia (the absence of pleasure from usually pleasurable activities), ruminative guilt, and suicidal ideation may indicate accompanying clinical depression requiring psychiatric intervention. Many health-care professionals believe that an HIV⁺ diagnosis will naturally result in depression. Although the diagnosis will certainly trigger anxiety and distress – sometimes so severe it impairs functioning and may even lead to suicide – this kind of situation-specific emotional response is not the same as depression. A person distressed by an HIV diagnosis may indeed need treatment, most likely for an adjustment reaction, but the distress will respond to supportive and other types of psychotherapy rather than medications.^[9,10]

HIV is thought to invade the subcortical areas and can destroy the basal ganglia, thalamus, and temporo-limbic structures. While these changes have been directly linked to HIV-associated cognitive/motor complex disorders (HIV-associated dementia complex and minor cognitive motor disorder), it is also thought that damage in these areas can result in new-onset depression as well as mania or psychosis.^[11]

This study was done to study the clinical profile of the depressed HIV/AIDS patients. The data will be useful in assisting in planning and implementing the treatment of depression in HIV/AIDS patients and the measure taken to improve the outcome of the illness.

MATERIAL AND METHODS

- Study center: Department of medicine (medicine wards, out-patient department, emergency unit), antiretroviral (ART) center, (Netaji Subhash Chandra Bose Medical College and Hospital, Jabalpur [Madhya Pradesh]).
- Duration of study: 18 months.
- Study design: Hospital based observational study.
- Sample size: 269 diagnosed patients of HIV/AIDS.

Inclusion Criteria

- Patients with HIV/AIDS positive and registered under ART center, Jabalpur, and who are willing to be a part of the study.

Exclusion Criteria

- HIV/AIDS individuals not willing to undergo above study.
- Individuals with any long-term illness apart from HIV/AIDS, leading to depression.

All the subjects were informed about the study protocol and written informed consent was obtained. The study was approved by the Ethics Committee of Madhya Pradesh Medical Science University.

Various Psychiatric Rating Scales Applied in Our Study

- General health questionnaire-28: For screening of the psychiatric illness.
- DSM IV scaling: For diagnosis of depression.
- Hamilton scale: For severity analysis of depression.
- Mini-mental state examination scale: For assessment of cognitive function.

RESULTS

- The mean age of HIV/AIDS patients with depression (63) was 34.41 ± 9.11 years, and that of nondepressed HIV/AIDS group (206) was 36 ± 9.85 years, overall mean age of total HIV/AIDS patients (269) was found to be 35.76 ± 9.69 years.
- Depression was more common among the male HIV/AIDS patients, i.e., 26.5% (36 out of 136) as compared to the female HIV/AIDS patients, i.e., 20.3% (27 out of 133).
- Depression was more common in graduate HIV/AIDS patients (24%) followed by 12th STD level of education group (23.8%). Depression is least common among the postgraduate HIV/AIDS patients (21.4%).
- The most common route for HIV/AIDS transmission was heterosexual route (92.19%, 248 out of 269 patients). Among the 63 depressed HIV/AIDS patients, majority were having heterosexual route of transmission (93.7%) followed by I.V. drug abusers (4.8%).
- The mean CD4 count was less in depressed HIV/AIDS patients (312 ± 121.33) as compared to the nondepressed HIV/AIDS patients (399.74 ± 194.48).
- Occurrence of depression in HIV/AIDS patients was 23.42% (63 out of 269) HIV/AIDS patients.

Nondepressed HIV/AIDS patients (Grade I) were 206 out of 269 (76.6%). Depression was present in 63 out of 269 (23.4%), with mild depression (Grade II) having 47/269 (17.5%), moderate depression having 15/269 (5.6%), and severe depression having 1/269 (0.4%).

- Out of the 63 depressed HIV/AIDS patients, 40 (63.49%) patients were compliant for treatment of depression, and 23 (36.50%) refused to take treatment for depression.
- Our observations showed a significant difference between the patients receiving antidepressant therapy as compared with the patients not receiving antidepressants therapy.

DISCUSSION

The mean age of HIV/AIDS patients with depression (63) was 34.41 ± 9.11 years, and that of nondepressed HIV/AIDS group (206) was 36 ± 9.85 years, with $t = 1.26$, $P > 0.05$ (non-significant). Overall, the mean age of total HIV/AIDS patients (269) was found to be 35.76 ± 9.69 years. Mean age in Bhatia and Munjal^[12] study was 30.59 years for depressed HIV/AIDS patients and 30.03 years for nondepressed HIV/AIDS patients.

It was observed that depression was more common among the male HIV/AIDS patients, i.e., 26.5% (36 out of 136) as compared to the female HIV/AIDS patients, i.e., 20.3% (27 out of 133) with $P > 0.05$ (non-significant). Talukdar *et al.*^[13] took 84 HIV/AIDS positive women and 82 HIV/AIDS positive men patients in their study observed that depression was more common in male HIV/AIDS patients, i.e., 69 (57.98%).

In our study, it was observed in our study that the most common route for HIV/AIDS transmission was heterosexual route (92.19%, 248 out of 269 patients). Among the 63 depressed HIV/AIDS patients, majority were having heterosexual route of transmission (93.7%) followed by I.V. drug abusers (4.8%). Bhatia and Munjal^[12] concluded that depression was more common in heterosexual HIV/AIDS patients as compared to the other routes of infections Khan^[14] also observed in their study that the most common route for HIV/AIDS transmission was heterosexual route (93.6%).

It was observed that depression was more common in low socioeconomic HIV/AIDS patients with $P > 0.05$ (not significant). Bhatia and Munjal^[12] also observed that prevalence of depression was high in low socioeconomic group.

It was observed that 168 HIV/AIDS patients had CD4 count >300 as compare to 93 with CD4 count ≤ 300 . Eshetu *et al.*^[15] observed that HIV/AIDS patients with CD4 count <250 were 99 (23.8%) and CD4 count ≥ 250 were 317 (76.2%), consistent with our study.

Our study showed that depression was found to be more common in HIV/AIDS patients whose CD4 counts were $<300/uL$ as compare to those with CD4 counts more than $300/uL$, with $P > 0.05$ (non-significant). Our results were also supported by Rai and Verma^[16] study that prevalence of depression was more inpatient having CD4 count ≤ 300 as compared to the patients having CD4 count >300 .

It was observed that the mean CD4 count was less in depressed HIV/AIDS patients (312 ± 121.33) as compared

to the nondepressed HIV/AIDS patients (399.74 ± 194.48) with $P < 0.05$ (significant). Eshetu *et al.*^[15] found in their study that HIV/AIDS patients had the mean CD4 count 428.53 ± 397.36 .

It was observed in our study that occurrence of depression in HIV/AIDS patients was 23.42% (63 out of 269) HIV/AIDS patients [Table 1]. Eshetu *et al.*^[15] observed in their study that prevalence of depression in HIV/AIDS patients was 38.94%. Shittu *et al.*^[17] observed in their study that prevalence of depression in HIV/AIDS patients was 56.7%.

In our study, it was observed that the nondepressed HIV/AIDS patients (Grade I) were 206 out of 269 (76.6%). Depression was present in 63 out of 269 (23.4%), with mild depression (Grade II) having 47/269 (17.5%), moderate depression having 15/269 (5.6%), and severe depression having 1/269 (0.4%) [Table 2]. Shittu *et al.*^[17] in a cross-sectional study, observed that the nondepressed patients were 130 (43.3%). Depression present in 170 (56.7%) HIV/AIDS patients out of total 300 HIV/AIDS patients, with 109 (36.3%) had minimal depression, and 40 (13.3%) had severely depressed.

Out of the 63 depressed HIV/AIDS patients, 40 (63.49%) patients were compliant for treatment of depression, and 23 (36.50%) refused to take treatment for depression [Table 3]. On follow-up, it was found that out of the treatment compliant group, only 12 (30.0%) were having depression and 28 (70.0%) were cured of depression, whereas among the patients not receiving treatment, 18 out of 23 (78.3%) were having depression, and only 5 (21.7%) recovered of depression without antidepressant treatment. Thus, our observations showed a highly significant difference

Table 1: Occurrence of depression among the HIV/AIDS patients

Depression	n (%)
Present	63 (23.42)
Absent	206 (76.58)
Total	269 (100)

HIV: Human immunodeficiency virus, AIDS: Acquired immunodeficiency syndrome

Table 2: Grading of depression among the HIV/AIDS patients (on the basis of hamilton scale)

Grade	n (%)
Grade I (no depression)	206 (76.60)
Grade II (mild depression)	47 (17.50)
Grade III (moderate depression)	15 (5.60)
Grade IV (severe depression)	1 (0.40)
Total	269 (100)

HIV: Human immunodeficiency virus, AIDS: Acquired immunodeficiency syndrome

Table 3: Effect of antidepressant treatment on depression among the HIV/AIDS patients

Treatment received	Total depressed HIV/AIDS patients (%)	After follow-up	
		With depression (%)	Without depression (%)
Yes	40 (100)	12 (30.0)	28 (70.0)
No	23 (100)	18 (78.3)	5 (21.7)
Total	63 (100)	30 (47.6)	33 (52.4)

$\chi^2=13.69, P<0.001$ (highly significant), HIV: Human immunodeficiency virus, AIDS: Acquired immunodeficiency syndrome

between patients receiving antidepressant therapy as compared with patients not receiving antidepressants therapy (with $\chi^2 = 13.64; P < 0.001$).

Hence, patient education about the early diagnosis and constant motivation for compliance to antidepressant therapy is very important in preventing the progression of the disease and for better prognostic outcomes of the HIV/AIDS illness.

CONCLUSION

Depression was very common among the HIV/ AIDS patients, and it was found to affect not only the lifestyle of the patient but also has an impact over the progression of the disease.

The present study found that most of the HIV infected patients were from sexually active age group. Heterosexual route was the main route of transmission.

Depression is not only a by-product of the social stigma associated with the illness when the patient comes to know about the illness but also HIV has some serious organic involvement in the brain that leads to the development of serious depressive symptoms among the individuals. The prevalence of depressive symptoms among the HIV/AIDS patients was significant. Thus, the awareness of depression among the HIV patients is very important to alleviate the suffering as well as to minimize the impact of depression on their lives.

Depression was found to be more among the young HIV individuals as compared to the older individuals. Depression was more among the males as compared to the females. Depression was more in lower socioeconomic status and less educated group patients. CD4 count was lower among the depressed HIV/AIDS group as compared to the nondepressed HIV/AIDS patients. Patients with longer duration of illness were more depressed compared to the newly diagnosed HIV individuals.

Depression is a very important factor in the adherence of ART regimen. This study showed that patients adherent to the antidepressant therapy had significantly better outcome

as compared to the patients who refused antidepressant therapy. Treatment of depression in HIV patients is thus a very essential part of the management of HIV/AIDS disease progression and in improving adherence to the ART regimen, thus improving the quality of life.

Applied Importance of the Study

The information obtained from this study can be used to make recommendations on appropriate models of care for depressed HIV-infected individuals. Although our study is a pilot study, taking our study as a platform, further large population cohort study over longer duration are required to further interpret the impact of the antidepressant therapy on the HIV/AIDS population and its role in management protocol of HIV/AIDS care. Furthermore, results obtained in this study could help in making appropriate and rational policies for early detection of depression in HIV/AIDS and developing effective intervention and prevention of depression in HIV/AIDS.

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